

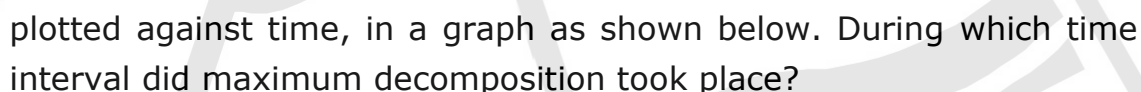


Read the following and answer any four questions from 1 to 5:

Marble's popularity began in ancient Rome and Greece, where white and off-white marble were used to construct a variety of structures, from hand-held sculptures to massive pillars and buildings.

- 1) The substance not likely to contain CaCO_3 is
- a) Dolomite
 - b) A marble statue
 - c) Calcined gypsum
 - d) Sea shells.

- 2) A student added 10g of calcium carbonate in a rigid container, secured it tightly and started to heat it. After some time, an increase in pressure was observed, the pressure reading was then noted at intervals of 5 mins and



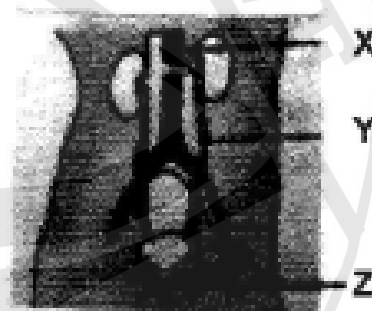
- a) 15-20 min b) 10-15 min c) 5-10 min d) 0-5 min
- 3) Gas A, obtained above is a reactant for a very important biochemical process which occurs in the presence of sunlight. Identify the name of the process –
- a) Respiration b) Photosynthesis
c) Transpiration d) Sphotolysis
- 4) When a piece of quick lime is added to water, a chemical change occurs. Study the following statements regarding this.

A A milky white substance is formed
B A solution of slaked lime is formed.
C A colourless, odourless gas is formed.
D An exothermic reaction occurs

The correct statetnent (s) regarding the above change/s is/are

- a) Only A, C and D b) Only B, C and D
c) Only A and D d) Only 8 and D

- 5) Fresh milk has a pH of 6. A milkman often adds a small pinch of Baking soda to the above. The reason for this is
- He wants to increase the pH
 - He wants to decrease the pH
 - He wants to convert lactogen to lactic acid.
 - He wants to convert lactic acid to lactogen.
- 6) Marble statues are corroded or stained when they repeatedly come into contact with polluted rain water. Identify the main reason
- Decomposition of calcium carbonate to calcium oxide
 - Polluted water is basic in nature hence it reacts with calcium carbonate
 - Polluted water is acidic in nature hence it reacts with calcium carbonate
 - Calcium carbonate dissolves in water to give calcium
- 7) When crystals of a blue hydrated copper salt is heated strongly it becomes white in colour. The correct representation of this is
- $CuSO_4 + H_2O \xrightarrow{\Delta} CuSO_4$
 - $CuSO_4 + 5H_2O \xrightarrow{\Delta} CuSO_4$
 - $CuSO_4 \cdot 5H_2O \xrightarrow{\Delta} CuSO_4 + 5H_2O$
 - $CuSO_4 + 5H_2O \xrightarrow{\Delta} CuSO_4 \cdot 5H_2O$
- 8) Which of the following options shows the correct labeling?
- | X | Y | Z |
|---------------|------------|------------|
| a) Aorta | Ureter | Urethra |
| b) Renal | Vein aorta | Urethra |
| c) Urethra | Aorta | Renal vein |
| d) Renal Vein | Urethra | Aorta |



FILL IN THE BLANKS

- 9) The _____ of a convex mirror is a point on the principal axis of the mirror from which rays of light incident on the mirror in a direction parallel to the principal axis, appear to diverge, after reflection from the mirror.
- 10) are chemicals which help in the treatment of acidity of the stomach. One example of such a substance is _____



- 11) A photochemical decomposition reaction occurs in the presence of..... . Decomposition of is one such reaction.
- 12) Turmeric is a natural indicator for substance which are Its colour changes to in the presence of such substances.
- 13) State the changes seen in the following during exhalation:
 - a) Thoracic cavity
 - b) Diaphragm
- 14) State two applications of a convex mirror.
- 15) A metal M forms an ionic compound with formula M_2CO_3 . Give the formula of the chloride of metal M. State one physical property of the metal chloride. Show the formation of the bond in this compound.
- 16) Consider two elements X and Y with atomic number 11 and 17 respectively. Write the formula of the compound formed by the combination of X and Y. Draw the electron dot structure showing the formation of the above compound.
State the nature of bond formed.
- 17) Write the balanced equation for the reaction between Aluminium and Iron (III) oxide. In this reaction, identify the oxidising agent and reducing agent.
- 18) Why is blood circulation in human called double circulation? What is its advantage?
- 19) What will happen if the bile duct of a person gets ruptured in an accident?
- 20) An ore of a metal on heating in air produces a gas X which is acidic in nature. This gas X is also formed on dry heating of green ferrous sulphate crystals. List all the steps by which the ore is converted to the metal. Draw a self-explanatory diagram showing the process of the purification of this metal.